

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1-62 (Cancelled)

1 63. (Currently Amended) A method of passing received Internet Protocol
2 (IP) data packets through a network device, said method comprising:
3 constructing within said network device a chunk ~~as a substantially fixed~~
4 ~~quantity of data~~ with a payload that is sized to fit more than one of said IP data
5 packets;

6 formatting said chunk to include at least one of:
7 a forward error correction (FEC) code; and
8 a cyclical redundancy check (CRC) code;
9 filling said payload of said chunk with a portion of at least one said IP
10 data packet;
11 including a framing symbol in each said chunk; and
12 passing said chunk through ~~an optical~~ switch fabric of said network
13 device.

1 64. (Previously Presented) The method of claim 63 further comprising
2 inserting said framing symbol adjacent to the trailing end of said chunk.

1 65. (Previously Presented) The method of claim 63 wherein said passing
2 comprises using said framing symbol to determine uniquely within a stream of
3 bits the beginning and the trailing end of said chunk.

1 66-69. (Cancelled)

1 70. (Previously Presented) The method of claim 69 further comprising
2 using said FEC encoded in each said chunk to detect and correct errors in said
3 chunk.

1 71. (Previously Presented) The method of claim 70 further comprising
2 using said CRC encoded in each said chunk to determine that the entire said
3 chunk has a proper CRC value.

1 72. (Previously Presented) The method of claim 63 further comprising:
2 formatting said chunk to include a scrambler seed, and wherein said
3 formatting comprises using said scrambler seed in said chunk to balance zeroes
4 and ones and to minimize run lengths of zeroes and ones by scrambling bits
5 across said chunk.

1 73. (Previously Presented) The method of claim 63 further comprising:
2 formatting said chunk to include a "Break Bytes" field and a "Make
3 Bytes" field, said fields configured to precondition an optical receiver prior to the
4 arrival of said chunk.

1 74. (Previously Presented) The method of claim 73 wherein said "Break
2 Bytes" field and said "Make Bytes" field are programmable in length.

1 75. (Previously Presented) The method of claim 73 wherein said passing
2 comprises using said "Break Bytes" and said "Make Bytes" field to precondition
3 an optical receiver prior to the arrival of a chunk.

1 76. (Cancelled)

1 77. (Previously Presented) The method of claim 75 wherein "Make Bytes"
2 field reestablishes a decision threshold level of a limiting amplifier within a burst
3 mode optical receiver.

1 78. (Previously Presented) The method of claim 63 further comprising:
2 formatting said chunk to include adding a chunk header.

1 79. (Previously Presented) The method of claim 78 wherein said chunk
2 header includes identification of chunk type.

1 80. (Previously Presented) The method of claim 78 wherein said chunk
2 header includes a header parity.

1 81. (Previously Presented) The method of claim 78 wherein said chunk
2 header includes an indication that said chunk is a master chunk.

1 82. (Previously Presented) The method of claim 78 wherein said chunk
2 header includes a sequence number.

1 83. (Previously Presented) The method of claim 82 further comprising:
2 performing error detection and correction using said sequence number in
3 said chunk header for alarming and for alerting that a chunk potentially was
4 corrupted.

1 84. (Previously Presented) The method of claim 83 wherein a re-initialize
2 bit is used to enable reinitialization of said sequence number, such that said
3 alarming is avoided.

1 85. (Cancelled)

1 86. (Previously Presented) The method of claim 63 wherein said chunk
2 contains multiple data packets.

1 87. (Previously Presented) The method of claim 63 wherein said sized
2 chunk contains a segment of a data packet, said data packet having a length
3 greater than the size of said chunk.

1 88. (Currently Amended) An Internet Protocol (IP) packet router, said
2 router comprising:

3 at least one chunk having a payload comprising a plurality of IP data
4 packets and a framing symbol; and

5 an optical-a switch fabric through which said chunk passes;
6 wherein a respective chunk includes at least one of:
7 a forward error correction (FEC) code, and
8 a cyclical redundancy check (CRC) code.

1 90. (Previously Presented) The IP packet router of claim 88 wherein said
2 framing symbol is located adjacent the trailing end of each said chunk.

1 91. (Cancelled).

1 92. (Cancelled)

1 93. (Cancelled)

1 94. (Cancelled)

1 95. (Previously Presented) The IP packet router system of claim 88
2 wherein said FEC coding is located adjacent to and following said framing
3 symbol.

1 96.-100. (Cancelled)

1 101. (Previously Presented) The IP packet router claim 88 wherein each
2 said chunk is formatted to include a chunk header.

1 102. (Previously Presented) The IP packet router of claim 101 wherein
2 said chunk header includes identification of chunk type.

1 103. (Currently amended) The IP packet router claim 101 wherein said
2 ~~optical~~-switch fabric is partitioned into a plurality of working subplanes.

1 104. (Previously Presented) The IP packet router claim 103 wherein said
2 chunk header includes identification of a specific routing subplane through said
3 switch fabric.

1 105. (Previously Presented) The IP packet router of claim 101 wherein
2 said chunk header includes a header parity.

1 106. (Currently amended) The IP packet router of claim 101 wherein said
2 chunk header includes identification of an input of said ~~optical~~-switch fabric and
3 an output of said optical switch fabric for said chunk.

1 107. (Previously Presented) The IP packet router system of claim 101
2 wherein said chunk header includes a master chunk bit.

1 108. (Currently Amended) An Internet Protocol (IP) packet router system,
2 said system comprising:

3 at least one chunk having a payload comprising a plurality of data packets
4 and a framing symbol; and

5 an IP packet router, including:

6 an optical switch fabric through which said chunk passes; and,
7 a first electrical switch stage at an input side of said optical-switch
8 fabric and a second electrical switch stage at an output side of said switch
9 fabric,

10 wherein each said chunk is formatted to include a chunk header and at
11 least one of:

12 a forward error correction (FEC) code, and

13 a cyclical redundancy check (CRC) code, and

14 wherein said chunk header includes a sequence number.

1 109. (Previously Presented) The IP packet router system of claim 88
2 wherein said payload of said at least one chunk further comprises at least one
3 packet segment and an associated packet header.

1 110.-111. (Cancelled)

1 112. (Currently Amended) A method of information flow through an IP
2 packet network system device, said method comprising:
3 encapsulating within said network device input IP data packets from a
4 plurality of source ports into substantially fixed sized chunks, wherein a
5 respective chunk includes at least one of:

6 a forward error correction (FEC) code, and

7 a cyclical redundancy check (CRC) code;

8 formatting overhead information onto each of said chunks, said overhead
9 including a framing symbol;
10 sending said chunks to ~~an optical~~ switch plane of said IP network device.

1 113. (Currently amended) The method of claim 112 further comprising:
2 converting said directed chunks into electrical signals;
3 sending said chunks from said ~~optical~~-switch plane;
4 performing error detection and error correction on said chunk;
5 removing said overhead information from said chunks; and
6 reassembling said input data packets out of said chunks.

1 114. (Currently amended) The method of claim 112 wherein all
2 information flows through said switch plane in said ~~substantially fixed-sized~~
3 chunks.

1 115. (Currently amended) The method of claim 112 further comprising:
2 formatting said chunks to include ~~adding~~a chunk header.

1 116. (Previously Presented) The method of claim 115 wherein said
2 appropriate switch plane is one of a plurality of subplanes comprising a portioned
3 switch fabric.

1 117. (Previously Presented) The method of claim 116 wherein said chunk
2 header includes identification of a specific routing subplane through said switch
3 fabric.

1 118. (Previously Presented) The method of claim 117 wherein said
2 directing comprises using said identification in said chunk header of a specific
3 routing subplane to route said chunks through said switch fabric.

1 119. (Currently amended) The method of claim 115 wherein said chunk
2 header includes identification of an input of said appropriate ~~optical~~-switch plane
3 and an output of said appropriate ~~optical~~-switch plane for said chunk.

1 120. (Currently amended) The method of claim 119 wherein said directing
2 comprises using said identification in said chunk header of said input and said
3 output to route said chunks through said ~~optical~~-switch plane.

1 121. (Previously Presented) The method of claim 119 further comprising:
2 performing error detection and correction using said identification in said
3 chunk header of said input and said output to verify the route of said chunks from
4 said input and said output.

1 122. (Previously Presented) The method of claim 115 wherein said chunk
2 header includes identification of chunk type.

1 123. (Previously Presented) The method of claim 122 wherein said
2 directing comprises using said identification of chunk type in said chunk header
3 to enable guaranteed bandwidth chunks to pass ahead of best effort chunks
4 through said switch plane.

1 124. (Currently amended) The method of claim 112 wherein said ~~optical~~
2 switch plane is part of ~~an~~~~optical~~~~a~~ switch fabric.

1 125. (Currently amended) The method of claim 112 wherein said
2 ~~electrically switching~~~~sending~~ comprises using said framing symbol in each said
3 chunk to determine uniquely within a stream of bits a beginning and a trailing end
4 of each said chunk.

1 126. (Previously Presented) The method of claim 63, further comprising:
2 stripping said IP data packets from said chunk within said network device.

1 127. (Currently amended) The IP packet router of claim 88, further
2 comprising:

3 a first stage at an input side of said optical-switch fabric and a second
4 stage at an output side of said switch fabric,
5 wherein said first stage is operable to construct said chunk, and said
6 second stage is operable to strip said data packets from said chunk.